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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/658,550	09/08/2000	Brian Sagar	11619 B	3903

7590 06/29/2005

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EXAMINER

HANNETT, JAMES M

ART UNIT	PAPER NUMBER
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2612

DATE MAILED: 06/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/658,550	Applicant(s) SAGAR ET AL	
	Examiner James M. Hannett	Art Unit 2612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 February 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-75 is/are pending in the application.
- 4a) Of the above claim(s) 10-71 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 72-75 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 February 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's arguments with respect to claims 1-5 and 72-75 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's arguments, see Amendment, filed 2/28/2005, with respect to the rejection(s) of claim(s) 6-9 under Graham in view of Keller have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Spector in view of Graham. Due to the new grounds of rejection this action is made non-final.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

- 1: Claims 1-5 and 72-75 are rejected under 35 U.S.C. 103(a) as being unpatentable over GB 231814 A Graham in view of USPN 5,946,500 Oles.
- 2: As for Claim 1, Graham teaches on Page 3, Lines 7-11 and Page 4, Lines 14-26 and depicts in figure 1 a method for chroma-keying comprising deploying a colored backdrop with retro-reflective elements and imaging with a camera a scene against the backdrop with the backdrop principally illuminated with light from a source or sources away from the camera axis. Graham teaches on Page 5, Lines 26-28 and Page 6, Lines 1-3 that the light source and the camera axis subtend an angle of less than about 5 degrees and more preferably of the order of

Art Unit: 2612

about 1 degree. Therefore, the backdrop is illuminated with light from a source or sources away from the camera axis. Graham teaches that the light source can be positioned at many positions, but does not teach that the light can be positioned at a location wherein the angle subtends from a backdrop between the camera axis and the light source is between 5 and 45 degrees.

Olis teaches on Column 4, Lines 25-34 and Column 1, Lines 26-56 and depicts in Figure 1A the use of a background replacements by using light sources that can be positioned at an angle that subtends from a backdrop between the camera axis and the light source is between 5 and 45 degrees. Olis teaches that this method is advantageous because it allows for precise positioning of the flood lamps.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to position the light sources in the system of Graham at a position that subtends from a backdrop between the camera axis and the light source is between 5 and 45 degrees as taught and depicted by Olis in order to allow for precise positioning of the flood lamps and increased image quality.

3: In regards to Claim 2, Graham teaches on Page 4, Lines 19-26 and Page 5, Lines 4-10 the backdrop and the scene are illuminated with light of the same color as the backdrop from a source close to the camera axis.

4: As for Claim 3, Graham teaches on Page 3, Lines 7-11 and Page 4, Lines 14-26 and depicts in figure 1a method for chroma-keying comprising deploying a backdrop with retro-reflective elements and imaging with a camera a scene against the backdrop with the backdrop illuminated with a chroma-keying light source disposed off the camera axis to an extent which does not impede auto-cueing. Graham teaches on Page 5, Lines 26-28 and Page 6, Lines 1-3 that

Art Unit: 2612

the light source and the camera axis subtend an angle of less than about 5 degrees and more preferably of the order of about 1 degree. Therefore, the backdrop is illuminated with light from a source or sources away from the camera axis. Graham teaches that the light source can be positioned at many positions, but does not teach that the light can be positioned at a location wherein the angle subtends from a backdrop between the camera axis and the light source is between 5 and 45 degrees.

Olis teaches on Column 4, Lines 25-34 and Column 1, Lines 26-56 and depicts in Figure 1A the use of a background replacements by using light sources that can be positioned at an angle that subtends from a backdrop between the camera axis and the light source is between 5 and 45 degrees. Olis teaches that this method is advantageous because it allows for precise positioning of the flood lamps.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to position the light sources in the system of Graham at a position that subtends from a backdrop between the camera axis and the light source is between 5 and 45 degrees as taught and depicted by Olis in order to allow for precise positioning of the flood lamps and increased image quality.

5: In regards to Claim 4, Graham teaches on Page 5, Lines 16-25 the background and the scene being illuminated solely by a source or sources separate from the camera.

6: As for Claim 5, Graham teaches on Page 4, Lines 19-20 the backdrop is colored.

7: As for Claim 72, Olis depicts in Figure 1A a desired position for the flood lamps (14). It is clear to the examiner from the depiction in Figure 1A that the flood lamps are positioned at an

Art Unit: 2612

angle that subtends at the backdrop (10) between the camera axis (16) and the light source (14) is between 10 and 45 degrees.

8: In regards to Claim 73, Olis depicts in Figure 1A a desired position for the flood lamps (14). It is clear to the examiner from the depiction in Figure 1A that the flood lamps are positioned at an angle that subtends at the backdrop (10) between the camera axis (16) and the light source (14) is between 10 and 25 degrees.

9: As for Claim 74, Olis depicts in Figure 1A a desired position for the flood lamps (14). It is clear to the examiner from the depiction in Figure 1A that the flood lamps are positioned at an angle that subtends at the backdrop (10) between the camera axis (16) and the light source (14) is between 10 and 45 degrees.

10: In regards to Claim 75, Olis depicts in Figure 1A a desired position for the flood lamps (14). It is clear to the examiner from the depiction in Figure 1A that the flood lamps are positioned at an angle that subtends at the backdrop (10) between the camera axis (16) and the light source (14) is between 10 and 25 degrees.

11: Claims 6-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,923,400 Spector in view of GB 231814 A Graham.

12: In regards to Claim 6, Spector teaches on Column 2, lines 64-67 and Column 3, Lines 1-36 a method of chroma-keying in which an actor is enveloped in a suit that renders the actor invisible to the camera during a chroma-keying operation. This method is advantageous because it allows a studio to produce special effects and replace the subject as well as the background with another image. However, Spector teaches enveloping the subject and background with a blue color material so that a background replacement camera can be used to replace the blue

Art Unit: 2612

color with the appropriate image. Furthermore, Spector does not teach that the material can be a retro-reflective material and that the imaging system can be performed with a retro-reflective material instead of a blue-colored material.

Graham teaches on Page 3, Lines 7-11 and Page 4, Lines 14-26 and depicts in Figure 1 a method of imaging a subject against a backdrop, the method comprising deploying a backdrop with retro-reflective elements, illuminating the backdrop and the subject, imaging with camera means the subject against the backdrop so that light is reflected and/or scattered from the backdrop and the subject to the camera means, and processing the image obtained to produce a viewable image in which the covered parts are substantially indistinguishable from the backdrop. Graham teaches the use of a chroma-keying method using a retro-reflective backdrop to mask the background in an image and replacing the color of the background with another background image. Graham teaches that this method of background replacement improves image quality over conventional green screen background replacement methods.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the retro-reflective material and camera system of Graham to perform the method of image replacement of Spector in order to increase the image quality and quality of the image background replacement.

13: As for Claim 7, Spector in view of Graham teaches a chroma-key method that uses a retro-reflective material to cover a background and an actor and to replace the color of the reflected retro-reflective material in image processing with data from another scene. However, Spector in view of Graham does not teach that the subject is imaged while operating or moving an object or objects which are prominently visible in the viewable image.

Official Notice is taken that it was well known in the art at the time the invention was made to perform special effects using chroma-keying in which an actor in a chroma-keyed suit moves an object that is not masked with the chroma-key color to make the object appear to float or move by itself.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to allow the actor in the body suit of Spector in view of Graham to move objects to make the object appear to float or move by itself.

14: In regards to Claim 8, Spector teaches on Column 2, lines 64-67 and Column 3, Lines 1-36 a method of chroma-keying in which an actor is enveloped in a suit that renders the actor invisible to the camera during a chroma-keying operation. This method is advantageous because it allows a studio to produce special effects and replace the subject as well as the background with another image. However, Spector teaches enveloping the subject and background with a blue color material so that a background replacement camera can be used to replace the blue color with the appropriate image. Furthermore, Spector does not teach that the material can be a retro-reflective material and that the imaging system can be performed with a retro-reflective material instead of a blue-colored material.

Graham teaches on Page 3, Lines 7-11 and Page 4, Lines 14-26 and depicts in Figure 1 a method of imaging a subject against a backdrop, the method comprising deploying a backdrop with retro-reflective elements, illuminating the backdrop and the subject, imaging with camera means the subject against the backdrop so that light is reflected and/or scattered from the backdrop and the subject to the camera means, and processing the image obtained to produce a viewable image in which the covered parts are substantially indistinguishable from the backdrop.

Art Unit: 2612

Graham teaches the use of a chroma-keying method using a retro-reflective backdrop to mask the background in an image and replacing the color of the background with another background image. Graham teaches that this method of background replacement improves image quality over conventional green screen background replacement methods.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the retro-reflective material and camera system of Graham to perform the method of image replacement of Spector in order to increase the image quality and quality of the image background replacement. Spector in view of Graham teaches a chroma-key method that uses a retro-reflective material to cover a background and an actor and to replace the color of the reflected retro-reflective material in image processing with data from another scene. However, Spector in view of Graham does not teach that the subject is imaged while operating or moving an object or objects which are prominently visible in the viewable image.

Official Notice is taken that it was well known in the art at the time the invention was made to perform special effects using chroma-keying in which an actor in a chroma-keyed suit moves an object that is not masked with the chroma-key color to make the object appear to float or move by itself.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to allow the actor in the body suit of Spector in view of Graham to move objects to make the object appear to float or move by itself.

15: As for Claim 9, Graham further teaches on Page 1, Lines 1-14 the viewable image is so produced in such that an image representing a background scene is superimposed on the backdrop and the covered part or parts of the subject.

Art Unit: 2612

Conclusion

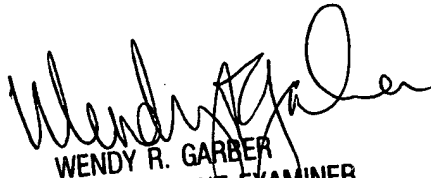
Any inquiry concerning this communication or earlier communications from the examiner should be directed to James M. Hannett whose telephone number is 571-272-7309. The examiner can normally be reached on 8:00 am to 5:00 pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy Garber can be reached on 571-272-7308. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

James M. Hannett
Examiner
Art Unit 2612

JMH
June 23, 2005


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